



# *The Commonwealth of Massachusetts*

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November 25, 2005

## CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME: Neptune Deepwater Port Project  
PROJECT MUNICIPALITY: Off-Shore waters of Manchester-by-the-Sea, Beverly,  
Salem and Marblehead  
PROJECT WATERSHED: Massachusetts Coastal  
EOEA NUMBER: 13641  
PROJECT PROPONENT: Neptune LNG, LLC  
DATE NOTICED IN MONITOR: October 8, 2005

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of a mandatory Environmental Impact Report (EIR).

### Project Description

As described in the Environmental Notification Form (ENF), the proposed project entails the construction of a Deepwater Port (DPW) in Massachusetts Bay, located in the federal waters of the Outer Continental Shelf (OCS) block NK 19-04 6525 and NK 19-04 6575, approximately 22 miles northeast of Boston and approximately 7 miles south-southeast of Gloucester, in a water depth of approximately 250 feet. The deepwater port, to be named Neptune, would receive and vaporize Liquefied Natural Gas (LNG) from a purpose-built and dedicated fleet of shuttle regasification vehicles (SRVs) equipped with vaporization equipment that would convert the LNG to natural gas. The Neptune deepwater port would be capable of mooring up to two LNG carriers, with a capacity of approximately 140,000 cubic meters, by means of a submerged unloading buoy system. The DWP will be owned and operated by Neptune LNG, LLC.



The natural gas would be transported to shore by a pipeline lateral that connects the deepwater port to the existing 30-inch Algonquin HubLine approximately 9 miles west of the proposed deepwater port location. From shore, natural gas would be transported to serve residential, commercial, industrial and electricity generation consumers, primarily in the New England area. Approximately 9.9 miles of the pipeline lateral is within State waters, and approximately 0.9 miles is within Federal waters. The preferred pipeline route would travel through approximately 52,000 feet of the South Essex and North Shore Ocean Sanctuaries.

#### Purpose of MEPA Review

As discussed below, I am requiring a thorough and regionally comprehensive analysis to determine if there are alternatives to the proposed project that can provide natural gas to local and regional markets while avoiding impacts to important fishing grounds and the fisheries and communities they sustain. In addition, because the proposed Neptune project is one of over 10 current proposals for offshore LNG terminals and offshore deepwater LNG ports in the Northeastern United States and Maritime Canada; and one of two offshore LNG ports proposed within close proximity to one another in Massachusetts Bay, the other being the Northeast Gateway project, I am requiring that the proponent conduct a thorough review of the cumulative impacts of the project on natural resources, habitat, public safety, commercial fishing, recreation and historic resources.

The Neptune Deepwater Port project is one of several major infrastructure developments proposed in the region to meet growing demand for energy, and particularly natural gas, in Massachusetts and New England. In its comments on the ENF, the state Division of Energy Resources (DOER) refers to the growing demand in New England for natural gas to fuel space heating in the winter months and generate electricity year round. DOER cites a conclusion of a recent New England Governors' report that "if the New England region wants to ensure reliable delivery of natural gas in the winters beyond 2010, the region must accomplish a substantial amount of demand reduction or infrastructure development before that time." The proposed Neptune project has the potential to make a significant contribution to meeting the region's energy needs; and I applaud the proponents for proposing an approach to gas delivery that leverages existing infrastructure, seeks to minimize the area of environmental impact, and is sensitive to concerns about public safety.

Nevertheless, I am mindful that each of the several proposed projects in the region has the potential to address some measure of demand for natural gas and may have less impact individually and cumulatively to the resources and uses of the marine environment in which the Neptune project is currently proposed. I acknowledge the productivity and economic significance of the fishing grounds, characterized as Block 125 that would be affected by this project. In addition, I note that the project's proposed location is immediately adjacent to the Stellwagen National Marine Sanctuary and will impact two state-designated Ocean Sanctuaries, areas designated to preserve and protect the marine ecology of Massachusetts Bay.

I believe that the challenge posed by this project, of determining how best to meet our energy needs while protecting marine resource and uses, speaks directly to emerging state and

federal ocean management principles. The fact that another project has proposed to locate a similar delivery, regasification, and transshipment facility in the same general area as the Neptune project demonstrates the need for a better way to make decisions regarding when and where development in our ocean waters should be permitted. Lastly, I note that both the Governor and Coastal Zone Management, under the Deepwater Port Act and the Coastal Zone Management Act, respectively, have jurisdiction over all components of the project, including those in federal waters, and both have indicated in comments to me that they will use the MEPA process as a basis for their formal decisions. Therefore, the project presents a significant opportunity to advance the state's emerging ocean management objectives of preserving and protecting our marine resources, supporting and enhancing traditional sustainable uses, and limiting the impact of necessary development. I encourage the proponent to develop materials responsive to the following Scope with these goals in mind.

#### MEPA Jurisdiction and Permitting Requirements

The project is undergoing review pursuant to the Section 11.03(3)(a)(1)(b) of the MEPA regulations because it will result in the alteration of ten or more acres of any other wetlands, in this case Land Under the Ocean.

The project requires numerous state and federal permits. At the federal level, the project will require approvals by the U.S. Coast Guard (USCG); the U.S. Department of Transportation (USDOT) Maritime Administration (MARAD), the Department of the Interior Minerals Management Service (MMS); the U.S. Army Corps of Engineers (ACOE); the U.S. Environmental Protection Agency (EPA); the U.S. Fish and Wildlife Service (USFWS); and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). The project is undergoing review pursuant to the National Environmental Policy Act (NEPA), with USCG as the lead federal agency.

At the state level, the project will require approval from the Governor for the DWP; a Chapter 91 Waterways License and a 401 Water Quality Certification from the Department of Environmental Protection (DEP); Federal Consistency Review by the Office of Coastal Zone Management (CZM); review from the Division of Fish and Wildlife (DFW) Natural Heritage and Endangered Species Program (NHESP); review from the Massachusetts Division of Marine Fisheries (DMF); review from the Board of Underwater Archaeological Resources (BUAR); and review for compliance with the Ocean Sanctuaries Act from the Department of Conservation and Recreation (DCR). The project will also require Orders of Conditions (OOC) from the local Conservation Commissions (and hence, Superseding Orders of Conditions from DEP if the local Orders are appealed).

Because the proponent is not seeking financial assistance from the Commonwealth for the project, MEPA jurisdiction extends to those aspects of the project that have the potential to cause significant Damage to the Environment as defined in the MEPA statute and that are within the subject matter of required or potentially required state permits and approvals. In this case, given the large number of state permits required and the comprehensive subject matter of the required state permits, MEPA jurisdiction is equivalent to full scope jurisdiction.

I wish to remind commenters that under MEPA, I do not have the authority to approve or deny the project. Review under MEPA is not a permitting process. Rather, it is a process designed to ensure public participation in the environmental review processes conducted by state agencies with permitting authority over the project, to ensure that state permitting agencies have adequate information on which to base their permit decisions and their Section 61 Findings, and to ensure that the potential environmental impacts of the projects are described fully and avoided, minimized, and mitigated to the maximum feasible extent.

### Special Review Procedure

The proponents have requested that a Special Review Procedure (SRP) be established to coordinate federal and state review of the projects under MEPA and the National Environmental Policy Act (NEPA). A separate Certificate Establishing a SRP has been issued today that describes the process by which the NEPA and MEPA reviews will be coordinated.

## **SCOPE**

### General

As noted previously, I have established a Special Review Procedure for the MEPA review of this project to facilitate coordination among state and federal agencies and to maximize opportunities for public participation in the review of this complex project. The Special Review Procedure lays out the general requirements for outline and content of the Draft Environmental Impact Report (DEIR). Because of the coordinated federal and state review, I have allowed the proponent to vary the format from the usual EIR format contained in Section 11.07 of the MEPA regulations.

The DEIR should follow the general guidance for outline and content contained in Section 11.07 of the MEPA regulations, as modified by this Certificate. The DEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should be sent to those parties that submitted comments on the ENF, and to any additional state agencies from which the proponent will be seeking permits and approvals.

The proposed project does not trigger requirements for enhanced notification and outreach pursuant to the Executive Office of Environmental Affairs (EOEA) Environmental Justice Policy. Nevertheless, I strongly encourage the proponent to engage in significant public outreach efforts in coastal communities in which fishing is a major component of the local economy. The DEIR should include a summary of any community meetings sponsored by the proponent and copies of the DEIR should be made available for public review at local public libraries.

The ENF contained preliminary information regarding potential impacts of the proposed project. In general, the DEIR should provide detailed discussion and analysis of the issues

below, including any measures necessary to minimize or mitigate the project's impacts. Several of these issues require the production of maps, tables, or other visual presentations. Mapping should be based on NOAA charts or other appropriate base maps at suitable scales. I ask that the proponent consult with CZM in developing the scale and format of graphic data products presented in the DEIR; data and graphic products should be submitted electronically in a format compatible with Massachusetts Geographic Information Systems (GIS) protocols.

#### Project Description and Permitting

The DEIR should include a thorough description of the project and all project elements and construction phases. The DEIR should briefly describe each state and local permit required for the project, and should demonstrate that the project meets any applicable performance standards. The proponent should address whether the project requires approvals from the Massachusetts Energy Facilities Siting Board (EFSB).

As described in the ENF, the purpose of the project is to "expand the New England natural gas infrastructure, and relieve pressure on burdened transportation and storage systems". The ENF describes several studies and reports that describe New England's growing energy demand and then analyzes various alternatives to meet this demand: energy conservation, alternative energy sources (fossil fuels and renewable energy sources), and alternative natural gas supply systems (including proposed projects and expansion of existing pipelines).

The proponent for the Northeast Gateway project was directed to discuss the region's current and future energy supply and demand, including a summary of the current role of gas and the specific role of the Northeast Gateway project in meeting that need. The report generated by Northeast Gateway, in addition to other appropriate information sources, should be reviewed and an updated discussion and analysis of these issues provided in the DEIR. The DEIR should also update the status of other proposed projects such as those in maritime Canada that could potentially provide gas to the region. The proponent should also detail the benefits of diversification of energy sources, including those related to national security and economic factors. The purpose and need discussion should build upon the studies referenced in the ENF and incorporate other information as necessary. This discussion is crucial for placing the proposed project in the context of the natural gas supply and demand issue confronting Massachusetts and New England. I advise the proponent to consult with DOER to ensure that this analysis is responsive to their comments.

The port will function with one or more vessels in different stages of transit and operation. Information about impacts when vessels are in port should be provided for both individual and multiple vessels in the DEIR. The proponent should refer to comments from the EPA with regard to evaluating impacts during multiple scenarios when the vessels are at buoy and under propulsion. In its discussion of potential impacts, the DEIR should, to the extent feasible quantify or approximate the degree or relative magnitude of the level of uncertainty associated with resource and impact assessments.

The ENF states that the proposed buoy system uses a proven technology. The DEIR

should explain how this technology has been proven and under what conditions, providing a comparison to anticipated conditions in Massachusetts Bay.

### Alternatives Analysis

#### *Overall Project*

A critical purpose of the DEIR is to provide the necessary context for evaluating the proposed project, particularly in comparison to other means of accomplishing its objectives. For this reason, the DEIR must assess the broad-scale and project-specific alternatives discussed below. The evaluation of each alternative should include a discussion of its ability to meet reasonably foreseeable energy demand in the context of existing and planned energy infrastructure. For each alternative, the DEIR should clearly describe the rationale for carrying forward individual alternatives, from the standpoint of: the ability to meet the purpose and need; environmental issues; conflicting uses; and public safety issues.

The ENF presents a preliminary discussion of the alternatives that the proponent has examined to date. Reflecting the regional nature of energy supply and demand, the DEIR should include an alternatives analysis that recognizes long-term regional energy needs (including the need for natural gas versus other forms of energy), forecasted energy growth, and existing and planned energy infrastructure. The proponent should refer to comments from the EFSB with regard to the comprehensive needs assessment and the need for a discussion of reliability considerations.

In addition to the preferred alternative, the analysis should include:

- the no-build alternative;
- additional renewable and non-renewable sources of energy;
- energy conservation; and
- other means of supplying natural gas to Massachusetts and New England, including on-shore and offshore terminals and pipelines, and a comparison of the proposed methods to construct other alternatives.

This information should be presented in a format that allows for a comparison of impacts across alternatives.

The alternatives analysis should consider the trade-offs between the project's potential impacts and proposed restrictions on activity in the area versus the relatively short span of the predicted 20-year life of the project. The analysis should reflect monitoring data from the HubLine project that has documented incomplete and/or unrealized habitat recovery.

#### *Onshore Alternatives*

With regard to onshore alternatives, the ENF stated that there were no sites that met the proponent's established selection criteria. The DEIR should enhance this discussion and provide

further clarification for the rejection of onshore alternatives. Following comments from CZM, the DEIR should discuss the effects of the proposed KeySpan LNG terminal on meeting energy needs if Federal Energy Regulatory Commission (FERC) revises its ruling on that application. The DEIR should also discuss reliance on expanded gas importation from land based sources using existing pipelines.

### *Deepwater Port*

In addition to the alternative analysis described above, the DEIR should provide a detailed analysis of alternative sites and technologies related to the DWP and pipeline. The goal of this analysis should be to consider alternate port locations, pipeline routes, and points of connection to the existing gas distribution system (not limited to the HubLine) that may have significant potential to reduce environmental and use impacts as compared to the preferred alternative, while still being reasonably capable of development in technical and economic terms. This analysis should also consider different technologies (including associated accessory structures) that could be incorporated into a DWP. Recognizing that a second, similar project has been proposed under NEPA in the same general location, the analysis should consider the impacts of locating two DWPs in that area.

The proponent used a phased process to identify and evaluate potential locations for the proposed terminal. Phase 1 involved a regional site screening of the central New England region to select a feasible area within the region for siting the LNG facility. The DEIR should expand on the Phase 1 alternatives analysis, incorporating the potential for environmental impacts at each of the feasible areas. The DEIR should also describe in detail the criteria used for the Phase 1 evaluation, specifically with regard to water depth, proximity to the pipeline network and metocean conditions.

Phase 2 of the site selection process identified potential areas in Massachusetts Bay that would satisfy the needs of the project. The proponent should refine Phase 2 of the analysis in the DEIR to include other potential pipeline routes through nearby ocean sanctuaries, as the activity would not be prohibited if the proponent can demonstrate public necessity and convenience. The DEIR should also incorporate environmental criteria in Phase 2 of the analysis. The proponent should also respond to comments from the NMFS with regard to considering the presence and densities of benthic, ichthyoplankton and zooplankton resources within the alternative project locations.

The siting criteria for the project should also respond to comments from NMFS and include proximity to historic fishing grounds and critical habitats for protected resources or essential fish habitat in the siting criteria, based on the results of sediment, benthic and ichthyoplankton sampling to be conducted by the proponents.

### *Pipeline Lateral*

The proponent anticipates installing the 24-inch pipeline lateral connecting the port to the HubLine with one pass of a post-lay plow and backfill plowing to cover the pipeline. While the

ENF indicates the length in miles of the pipeline, it does not translate that into the number of acres of seafloor potentially impacted by the project. This information should be included in the DEIR.

With regard to the pipeline connection to the offshore terminal, the ENF appears to draw a general conclusion that soft bottom substrates are preferable to hard or cobbly substrates. It also appears that, for the example of the pipeline connection to the proposed location of the DWP, there is a more direct (i.e. shorter linear distance, and subsequent decreased impact footprint) alternative that, according to the ENF, crosses rockier substrate. The DEIR should analyze alternative pipeline routes in consideration of the following:

- the route that minimizes the total area of seafloor disturbance;
- hard vs. soft bottom impacts, including habitat, resource recovery, and ease-of-construction considerations;
- habitat alteration (e.g., through the introduction of cobble habitat as a result of rip-rap placement to ensure a covered pipeline in current softer substrates); and
- other lessons learned or considerations related to the HubLine project.

This discussion of alternatives for the pipeline connection should discuss the tradeoffs in impacts resulting from a shorter length of pipeline that traverses hard habitat, compared to those resulting from a longer length of pipeline that traverses soft habitat. The DEIR should also evaluate alternate pipeline sizes and their potential to accommodate future additional capacity.

As described in the ENF, each of the alternative pipeline routes providing the connection between the DWP and the HubLine would pass through a State-designated Ocean Sanctuary. For each alternative, the DEIR should describe and quantify the pipeline length and footprint passing through any Ocean Sanctuary. A portion of the proposed pipeline appears to pass through an area identified as "former dumping grounds". The ENF states that detectable levels of contaminants were found along the proposed "Northern Route" of the pipeline, as well as the "Direct Route". For both of the pipeline alternatives, the proponent should identify the location and levels of contaminants.

The DEIR should also include consideration of a joint pipeline lateral to connect the Neptune and Northeast Gateway projects to the HubLine pipeline and the coordination of project construction between the two projects as a means to reduce construction impacts to habitat.

The overall alternatives analysis as described above will provide critical information during the public review process to evaluate alternative methods of achieving the project purpose and need, and in determining consistency with the provisions of CZM's Energy Policy #1 governing the consideration of alternative facility sites. Because of the importance of this information, CZM recommends that the results of the alternatives analysis, including a clear description of its methodology and decision-making, be published for public review prior to the submittal of the DEIR, as allowed under the SRP. Similar comments by the City of Gloucester and the Conservation Law Foundation ask that I require a regional siting study as context for the review of this project. I agree that such an approach would reflect emerging principles of ocean



management that advocate regional contexts for management decisions, but it is beyond my authority to impose such a requirement. However, I reserve the right, pursuant to the SRP, to require additional review and analysis of alternatives if the alternatives analysis presented in the DEIR is deemed inadequate.

### Cumulative Impacts

The DEIR should present a robust cumulative impact analysis for the proposed project. There are over 10 LNG import facilities in various stages of permitting and development in the Northeastern U.S. and Eastern Canada. In particular, another offshore proposal, the Northeast Gateway Deepwater Port and Pipeline Lateral is proposed and would also tie into the same existing HubLine. The ENF did not carry forward an evaluation of the Northeast Gateway project because it concluded that that project's relative air and entrainment impacts were greater than Neptune's proposed impacts. However, due to the close physical proximity of the two proposed projects during construction and operation, and the virtually contemporaneous timetable for their respective environmental impact reviews, the analyses presented in the DEIR should account for the possibility of the Neptune project and the Northeast Gateway project both receiving a DWP license. The proponent should refer to comments from CZM with regard to the development of quantitative impact data for the DEIR and the evaluation of cumulative impacts.

The DEIR should analyze the potential need for ocean siting of energy facilities, such as the proposed project, in the overall regional need discussion. The DEIR should also include a discussion of the potential effect of this project on creating an opportunity for additional pipeline/port projects in the future. Recognizing that the construction and operation of the HubLine has led to an apparent opportunity for this proposal, the question arises as to how much potential for additional "pipeline/port proliferation" will exist after this project is completed. To address this question, the DEIR should describe, based on different assumptions of the existing and future gas natural input to the HubLine from onshore sources, under what circumstances the project would absorb all remaining capacity or, conversely, leave a surplus capacity that would allow the HubLine to accommodate more ocean-based pipeline spurs in the future.

### Marine Habitat and Fisheries

The MA DMF and NMFS have indicated that the proposed location of the deepwater port and pipeline lateral lies within productive fisheries habitat, supporting numerous species of finfish and invertebrates including such species as Atlantic cod, haddock, winter flounder, summer flounder, yellowtail flounder, ocean pout, Atlantic herring, surf clam, ocean quahog and American lobster. State waters west of the proposed terminal have been designated as a "Cod Conservation Zone" (CCZ) and closed to all cod harvest from December through January 15<sup>th</sup> each year. In addition, NOAA statistical area 125 ("Block 125") has long been considered critical fishing grounds for the port of Gloucester and other Massachusetts and New Hampshire fishing communities. Finally, the deepwater port site lies within known high-use areas for endangered North Atlantic right, humpback and fin whales.

*Benthic Impacts*

As described in the ENF, marine habitat impacts include those associated with construction activities. The ENF states that while the preferred alternative pipeline route is the longest alternative, (approximately 10.9 miles in length), it traverses an area where “benthic habitats ... are predominantly low complexity sand mud bottom [and] are less valuable than the pebble/cobble and partially buried or dispersed boulder habitat, which comprises approximately 1.3 miles (15%) of the habitat along the Direct Route”. The DEIR should provide analysis supporting this contention, particularly because the ENF appears to assume that soft-bottom impacts are preferable to hard-bottom impacts. In order to characterize the substrate within the project area, the proponent has completed a geophysical sampling plan and submitted it with the ENF. The results of this plan should be included in the DEIR. The DEIR should describe benthic resources (invertebrates, lobster, fishes, crabs, shellfish, and other resources) in the pipeline corridor and DWP construction footprints, and describe the method of acquiring this information, including the locations of any sampling points.

The ENF indicates that the pipeline will be installed using a derrick/lay barge and a towed plow, using a series of anchors during construction. The proponent should conduct a thorough analysis evaluating the number and location of anchoring sites necessary to lay the pipeline.

The ENF states that it may be necessary to add physical protection to the gas transmission line in the form of concrete mattresses or gravel/rock if the trench cannot be cut to design depth. The DEIR should describe and quantify these areas and discuss the temporary or permanent impacts to benthic habitat and benthic fauna and flora that could occur as a result of such armoring, and provide a comparison of such effects between potential routes through soft-bottom and hard-bottom environments.

The DEIR should include estimates of spatial habitat impacts, including areas in the pipeline corridor, anchor and anchor line scour, lay barge and line-up stations, and other activities or infrastructure that could affect benthic resources. After fully exploring options to minimize the footprint of habitat impacts, the DEIR should include a mitigation plan for unavoidable habitat impacts.

The DEIR should include sediment mapping based on project-specific data collected and USGS mapping. The DEIR should fully describe all survey results, including sidescan sonar, sub-bottom profile, multibeam bathymetry, grab samples, sediment profile imagery, and other data collection efforts. The DEIR should identify bottom areas determined to be unsuitable for pipeline burial and discuss the rationale for determining unsuitability. The proponent should provide survey results to state and federal resource agencies in electronic and hard copy formats. Bottom areas determined to be unsuitable for pipeline burial should be identified on the maps, and the rationale for the determination of unsuitability discussed in the DEIR.

*Seawater Intakes and Discharges*

The routine operations on the SRVs when at buoy will require the daily withdrawal of approximately 7 million gpd and the discharge of approximately 4.4 million gpd of seawater. The intake and discharge of seawater has the potential to impact fish, plankton, and the organisms that depend upon plankton as a source of nourishment that reside in or frequent Commonwealth waters. As stated in the ENF, the inflow rate at the sea chests is proposed to be 0.49 feet per second. The DEIR should provide the engineering calculations that support this estimate, discuss potential alternative technologies for reducing the inflow rate, and describe at what point away from the intake screen the velocity of 0.49 feet per second will be achieved.

The ENF states that the entrapment of some fish and planktonic organisms will be unavoidable as the water is pumped in for use on board the LNG vessels, but that the intake system has been designed to minimize intake velocity and would be located at a sufficient depth to prevent the entrainment of lobster larvae. Although the DWP would be located in federal waters, the potential source impacts are not limited by jurisdictional boundaries. The DEIR should address the scope and extent of these potential impacts, based on scientific data such as sampling of waters in the area, to determine the potential for entrainment. This analysis should present the results of ichthyoplankton sampling, and information regarding seawater intake volumes, velocities, and proposed intake screen sizes. The DEIR should propose a biological monitoring plan in accordance with NMFS recommendations. The DEIR should also propose measures to avoid and/or minimize impacts (including time-of-year restrictions and project sequencing), and discuss feasible compensatory mitigation measures for potential impacts in Commonwealth waters that cannot be avoided.

The DEIR should also analyze the impact of potential pollutants associated with the discharge of water from the DWP. Possible discharges that may occur from the DWP include biocides utilized with the once-through engine cooling water, a discharge of brine from desalination operations, and a discharge of engine cooling water at temperatures up to 11 degrees Fahrenheit higher than ambient temperatures. The DEIR should identify all types and volumes of discharge, anticipated impacts and proposed mitigation.

*Fisheries Resources*

The DEIR should characterize fisheries resources through an appropriate level of directed study of habitat characteristics, fish resources and an analysis of existing uses. To ensure a comprehensive review of impacts, it will likely be necessary to supplement existing sources of data, such as the DMF Resource Assessment Survey and commercial landings database with new directed field studies or surveys. Such efforts must be scientifically sound and of sufficient duration to accurately characterize habitat, fisheries resources, and uses. To facilitate the review and permitting of this project, I ask that the state agencies coordinate in the development of a study plan to assist the proponents in determining the extent of resource analysis necessary to characterize potentially affected resources and evaluate potential impacts under the controlling regulations. The project will also require an expanded Essential Fish Habitat (EFH) assessment under the federal review process, pursuant to 50 CFR 600.905.

The proponent should coordinate with state and federal fisheries agencies to develop a work schedule that will ensure the protection of species of concern during sensitive life-stages. Prior to commencing work, the proponent should obtain documentation from the DMF regarding the presence or absence of mapped shellfish beds in the proposed project corridor. The DEIR should fully analyze the cumulative impacts to the marine environment resulting from the project. This analysis should be species-specific and include an extrapolation of impacts to fishery production and harvest. Existing commercial and recreational activities (including fishing, whale watching, disposal of dredged material, and commercial ship traffic) and the impacts they cause should be described along with a characterization of the activities that can be expected, including the potential for the proposed buoy system to handle larger vessels.

### *Conflicting Uses*

The project has the potential to significantly affect existing commercial fishing activity in Block 125, a highly productive fishing area. The ENF recognizes the potential disruption to recreational and commercial fishing, boating, and navigation during the pipeline laying process, and the proponent is consulting with fisherman, lobsterman as well as state and federal agencies with jurisdiction over affected areas in selecting the pipeline pathway and mitigating construction and operational impacts.

The DEIR should include a full discussion of the potential for this project to conflict with existing and proposed uses in the project area, both on a temporary and permanent basis, and assess the economic and socioeconomic value of commercial and recreational fishery losses anticipated as a result of the project. The proponent should consult with the NMFS to identify fishery resources, landings data, gear types and trips in the project area. The proponent should respond to the possibility that existing commercial fishery may be displaced to other areas and could result in increased local fishing pressure.

Other existing uses that should be analyzed include whale watching and other tourist boating activities, disposal activities at the Massachusetts Bay Disposal Site, and the shipping lanes, including potential results of any proposed shift in the shipping lanes. The evaluation of conflicting uses should also examine the impacts to vessels leaving and returning to Gloucester and other ports that may be required to detour around the port. This discussion should also include details of any proposed safety exclusion zone around the DWP, including a rationalization for any increase in its size above the regulatory minimum size as an exclusion zone would effectively privatize currently public lands.

### *Marine Mammals*

The construction and operational phases of the DWP, as well as the transit frequency of large vessels into Massachusetts Bay may potentially increase the chances that ships may strike whales, particularly right whales, and other marine mammals which congregate in Cape Cod Bay and the Great South Channel in late winter and spring. The DEIR should assess potential impacts (operational and construction related) to marine mammals of the project and include and

appropriate monitoring and mitigation plan. The proponent should also incorporate data from acoustic monitors in the Stellwagen Bank area.

### *Monitoring*

Based on concerns with regard to seawater intake and living marine resources present within the project area, the proponent should include a detailed plan for third party documentation of ecological conditions of the sea floor and project area prior to construction in the DEIR. The plan should be designed to determine the distribution and abundance of marine fishery resources at the project site (by species and life stage and including early life stages) and quantify the impacts on those species and the fishery from installation of the pipeline, impingement, entrainment, and the physical/chemical properties (e.g., temperature, salinity and biocide concentration) from the discharge plume. A clear plan for ecological monitoring of the project post-construction should be presented. The monitoring plan should also be linked to a plan for adaptive management of the LNG facility to allow operational or mechanical modifications to prevent or minimize adverse impacts to the marine environment. The proponent should also consider establishing control areas on the seafloor outside of the pipeline construction zone against which post-construction changes to the benthic environment can be measured. The monitoring plans should also include pre and post construction tissue analysis for selected contaminants in commercially exploited species (e.g., flounder, cod, lobster, clams) within the project area.

### *Ocean Sanctuaries*

The DCR is the agency responsible for the care and control of Massachusetts' five state-designated ocean sanctuaries in accordance with the Ocean Sanctuaries Act (OSA) (M.G.L. c. 132 and 302 CMR 5.00). The proposed pipeline route to connect the Neptune docking stations to the existing HubLine pipeline crosses a portion of both the North Shore Ocean Sanctuary and the South Essex Ocean Sanctuary. Certain activities, uses or facilities such as "channel or shore protection projects, navigation aids [or] projects authorized under Chapter 91, deemed to be of public necessity and convenience" are allowable under the OSA. The DEIR must show that the project meets the requirements of public necessity and convenience as outlined in DCR's comments on the ENF. The DEIR should also identify any issues of conformance to the regulations of the OSA and should respond to comments from the Conservation Law Foundation with regard to compliance with the OSA.

### Water Quality

As described in the ENF, the pipeline and flowline connecting the port to the pipeline are proposed for construction through use of a plow with either a dynamically-positioned pipelaying vessel or a conventional lay vessel. For the installation of the pipeline, the DEIR should describe modeling results for potential sediment concentrations under various scenarios, ranging from high sediment concentration/low dilution to lower sediment concentration/greater dilution, and include a discussion of compliance with water quality standards. The DEIR should also describe modeling results for sediment depositional depths resulting from sediment disturbance and resettlement stemming from pipeline construction. Sediment quality data should include mean

values, ranges, number and location of samples including those that exceed health criteria and the raw data itself should be included in a technical appendix. The DEIR should include an analysis of the potential for temporary oxygen depletion in the sediments due to sediment dispersion. The proponent should also evaluate and discuss how the project will meet the water quality standards at 314 CMR 4.05(4)(a), comply with the applicable antidegradation provision at 314 CMR 4.04(1), and meet the performance standards of 310 CMR 9.40(2).

As the trenching and backfilling process will result in sediment suspension into the water column, the DEIR should identify the distance from the trench at which ambient levels of total suspended solids (TSS) and sediment deposition would be expected. The DEIR should describe any resources within this sediment depositional footprint, potential impacts and proposed mitigation.

Both of the alternate pipeline routes pass through a historic waste disposal site, and contaminants have been detected at all three alternate terminal sites. The DEIR should describe sediment quality data from the proposed location of the deepwater port and the pipeline, and discuss the potential for construction activities and scour associated with anchor chain drag to disturb contaminated sediments and release them into the water column.

The ENF states that upon completion of the pipeline's placement, the pipe will be hydrostatically tested with a single pass of approximately 3.0 million gallons of filtered seawater and fluorescent dye. The DEIR should describe all chemicals proposed to be used during the hydrostatic testing, and the method of their treatment to ensure compliance with water quality standards. Methods to reduce entrainment of aquatic organisms in these tests should also be discussed. The ENF briefly discusses the coating of the pipeline prior to burial. The type of materials used for coating the pipeline should be described in the DEIR.

The routine operations on the SRVs when at buoy will require the daily withdrawal of approximately 7 million gpd and the discharge of approximately 4.4 million gpd of seawater. The DEIR should discuss the need for this amount of water and describe the manner in which it would be supplied and discharged, and any thermal or potential other water quality impacts associated with water discharge.

The ENF also states that support vessels that will be present when the SRVs are at port may have minor wastewater discharges. These discharges should be fully discussed and evaluated in the DEIR. The DEIR should also list all chemicals to be used onboard the LNG ships and describe containment plans for these chemicals.

### Wetlands

The ENF indicates that segments of the pipeline are located within Land Under the Ocean (LUO) but beyond the nearshore area. Nearshore area, representing the limits of jurisdiction for review by Conservation Commissions, is defined in 310 CMR 10.25(2) as those portions of LUO where the land is 80 feet below the level of the ocean. The DEIR should document that the project will be limited to LUO in waters of greater than 80-foot depths; work in waters less than

80 feet will require the filing of a Notice of Intent in the applicable municipalities. The proponent should also address whether any of the on-shore construction and staging required for the project requires permits under the Wetlands Protection Act.

#### Chapter 91 Waterways License

The ENF asserts that under the provisions of Chapter 91, the project would be considered a water-dependent use. The proponent has indicated its view that the Neptune project is a “water-dependent use” under DEP’s waterways regulations because it is “an energy transfer point between ocean and land via the HubLine” transferring energy from a facility in a coastal zone to other coastal locations. The proponent should clearly demonstrate in the DEIR that the facility would indeed meet the requirements to receive a finding of water dependency. DEP has indicated in its comments on the ENF that the proponents characterization of the HubLine’s Ch. 91 regulatory status is not accurate, and its description of the Neptune project as an “energy transfer point”, via the HubLine, in order to classify the project as a water dependent use that requires “direct access to the water” is not consistent with the regulatory criteria set forth in 310 CMR 9.12. The determination of whether a project is or is not water-dependent has bearing on the mitigation standards that apply to the project under Ch. 91.

A formal determination on a license application will not be made until after the issuance of a Certificate on the Final EIR and other pre-conditions to a completeness determination are met in accordance with the Waterways regulations at 310 CMR 9.11(3)(c). Therefore, MEPA review is not the process by which a determination will be made on whether the Pipeline Lateral is a water-dependent or non-water-dependent use. However, the Waterways regulations at 310 CMR 9.21(2)(c) provide that, if a variance is reasonably foreseeable, the information required for a variance application should be included in the EIR. If the proponent believes that a variance is reasonably foreseeable, additional information on these and other topics should be included in the DEIR to meet the requirements at 310 CMR 9.12(c).

#### Ocean Management

The proponents have indicated that they plan to “incorporate the ocean management principles presented in the [Governor’s Ocean Management] Task Force’s recommendations as well as the proposed ocean management legislation into the design of the proposed project and mitigation measures”. The DEIR should expand on this discussion as directed by CZM in their comments on the ENF. I acknowledge comments received that indicate that this discussion is premature in the absence of an approved ocean plan. While the decision-making process would likely be greatly assisted by an established planning and management structure, this project nevertheless presents a significant opportunity to advance our understanding of the marine environment and potential impacts to its resources and the uses it supports. As part of the project, the proponent will collect a significant amount of information and data, and provide extensive analysis of the existing environment and resources in the project area, potential impacts, and the success of mitigation efforts. In addition, the cumulative impact analysis will provide detailed information and analysis about the greater Massachusetts Bay environment. In addition to the discussion required above, the proponent should discuss in the DEIR how it will coordinate with

state agencies to share this information. Lastly, as described in greater detail above, proposed mitigation measures, in addition to those designed to address project-specific impacts, should be considered in the context of an ecosystem-scale perspective, in support of the emerging ocean management program.

### Air Quality

Operation of the deepwater port would result in air emissions from the SRVs and support vessels. While the SRV is at buoy, the deepwater port would be considered a stationary source. The natural gas that this project will provide to gas consumers in the region will aid the Commonwealth in attaining the eight-hour ozone National Ambient Air Quality Standard (NAAQS). However, the area of Eastern Massachusetts where the project is proposed to be sited is classified as a non-attainment area for ozone, and air pollutants will be generated during the construction and operation of the project.

Emissions would be produced from two gas-fired marine auxiliary boilers and from two diesel fuel (DF) engines on each SRV. Each SRV is equipped with four DF engines; two of which are not in operation during cargo discharge. The proposed boilers would have low-nitrogen oxide (NOx) burners with flue gas recirculation. The ENF states that flue gas recirculation reduces up to 60% of NOx emissions in marine boilers by re-circulating almost 20% of the boiler flue gas into the main combustion chamber. The two DF that would be used during cargo discharge would have selective catalytic reduction (SCR) units to reduce NOx emissions by 85% to very low-levels. An oxidation catalyst would also be installed on the DF engines to reduced carbon monoxide (CO) and volatile organic compounds (VOCs) emissions. The ENF states that emissions of NOx would be controlled to the Lowest Achievable Emission Rate (LAER), and emission offsets for NOx would be obtained. All other pollutants would be controlled to levels representing the Best Available Control Technology (BACT). The dispersion modeling analysis predicts that emissions from the SRV boilers and generators would be below EPA significant impact levels. The DEIR should provide data supporting the above conclusions.

The proponent acknowledges that a Title V Operating Permit is required, as well as a plan approval under Emission Offset and Non-Attainment Review, which requires the application of the LAER analysis (310 CMR 7.00 Appendix A). DEP has stated that a Comprehensive Plan Application pursuant to 310 CMR 7.02(5) is also applicable to the project. The ENF states that the project's emissions would not trigger review under the Prevention of Significant Deterioration criteria. The DEIR should provide data supporting this conclusion.

The proponents should perform a general conformity analysis that satisfies the requirements of Section 176(c)(1) of the U.S. Clean Air Act and the General Conformity regulations promulgated by EPA in 1993 (40 CFR Part 51, Subpart W, and 40 CFR Part 93). The proponent should consult with DEP and EPA regarding the requirements and review thresholds for the conformity analysis. In general, the purpose of the conformity analysis is to show that federal actions support the goals of the State Implementation Plan (SIP) and be shown to not:



- Cause or contribute to new violations of any national ambient air quality standard (NAAQS) in any area;
- Increase the frequency or severity of any existing violation of any NAAQS; or
- Delay timely attainment of any NAAQS or interim emission reductions.

The proponent should mitigate to the maximum extent feasible construction-period impacts, including diesel emissions. The proponents should work with DEP to implement the Clean Air Construction Initiative (CACI) to achieve construction-period diesel emission mitigation, which should include the addition of after-engine emission controls such as oxidation catalysts or particulate filters for on-shore activities. In addition, the proponents should also require their contractors to use on-road ultra low sulfur diesel (ULSF) fuel in their off-road construction equipment. The use of ULSD fuel, in conjunction with after-engine emission controls, can substantially increase particulate matter (PM) removal beyond that obtained solely with after-engine controls.

### Construction and Decommissioning

The ENF states that an anchored lay barge would be used to install the flowline, gas transmission pipeline and manifolds. The trenching and burial of the gas transmission pipeline and flowline would be accomplished using a towed pipeline plow. Recent experience in constructing major infrastructure on the seafloor in Massachusetts waters is limited to the construction of the HubLine subsurface pipeline. The DEIR should identify issues and lessons learned from the HubLine project, and discuss how this knowledge has guided construction planning for the proposed project.

The proponent should respond to comments from the Conservation Law Foundation with regard to the project's construction schedule. The proponent should consult with NMFS and other agencies to develop a detailed plan that clearly identifies appropriate time windows for construction so that adverse impacts to marine life will be minimized. The planning should include consideration of timing of seasonal migrations and spawning periods.

The DEIR should also include a description of alternative methods of pipeline construction that might be anticipated to reduce environmental impacts. For example, a plan for pipeline installation that includes work outside of the late-fall/early-winter period to avoid potential delays and problems associated with storm activity could improve the accuracy of pipe-laying, trenching, and other related construction activities. The DEIR should specify evaluate techniques to avoid marine impacts during construction, such as the use of dynamically positioned derricks to eliminate anchor and chain scouring of the seafloor.

The DEIR should discuss the potential for existing Designated Port Areas (DPAs) in harbors along Massachusetts Bay to serve as construction staging operations for the proposed project. The DEIR should include an evaluation of potential impacts to marine mammals, turtles and finfish from noise generated during the construction period.

As stated in the ENF, the DWP has an expected lifespan of approximately 20 years and

decommissioning activities would include the removal of the buoy, chains, cables, riser and the connection to the pipeline. The DEIR should include a full discussion of decommissioning activities, including the potential for impacts to the seafloor, conflicts with fishing or other uses, or other impacts. In addition, the DEIR should include a discussion of the potential impacts that could result from decommissioning the pipeline in place.

Following comments from DEP, the proponent should advance the level of contingency planning outlined in the ENF. Conservative construction planning, realistic expectations of weather delays, and specific contingency plans to address schedule slippage should be key elements of the project schedule to avoid incursions into the specified no-work periods. The DEIR should present a schedule of proposed activities with specific contingencies for suspending or ceasing operations, including decommissioning, if it becomes impossible to complete work within the schedule and time-of-year restrictions to avoid unauthorized impacts. The proponent should also provide more detail on off-shore construction contingencies.

### Visual Impacts

The project as proposed would result in one LNG ship discharging gas at a buoy nearly all the time, except in extreme weather conditions. The DEIR should include a graphical illustration of both the daytime and nighttime appearance of the DWP facility with ships attached to the proposed buoy from nearby shore locations that are accessible to the public.

### Marine Archeological Resources

The proponent has conducted site-specific remote-sensing geophysical surveys to determine the potential for marine archaeological resources to exist at the project site. The Massachusetts Board of Underwater Archaeological Resources (BUAR) has conducted a review to identify potential submerged cultural resources in the proposed project area and has stated that the proposed project could negatively impact both submerged prehistoric and historic cultural resources. The proponent should submit the results of the Phase I and II remote sensing geophysical surveys to BUAR. The proponent should continue to consult with the Massachusetts Historical Commission (MHC), the Office of the State Historic Preservation Officer (SHPO) and BUAR to avoid, minimize, or mitigate adverse effects to archeologically or historically significant submerged cultural resources historic and archeological resources in the project's area of effect. The DEIR should include the pertinent survey information, results, and analysis.

### Public Safety and Security

I expect that the USCG will address public safety and security issues in their review of the project. While MEPA jurisdiction is largely focused on the environmental impacts of the project, the MEPA process is an appropriate forum to address the safety and security issues surrounding the project, particularly as they relate to the examination of alternatives and navigational issues necessary for CZM to issue its federal consistency determination for the project.

In accordance with the directives set by the appropriate federal agencies, the DEIR should include an analysis of the safety and security issues related to the construction and operation of the project, including exclusion zones, the regasification process, LNG tanker navigation, operations in extreme weather, back-up systems, accident scenarios, emergency departure and potential terrorist attack. This analysis should fully describe all safety systems, vessel safety records, and safety and security issues based on the experience of similar facilities.

### Mitigation and Compensation

The MEPA process can serve an important role in coordinating the requirements for compensation and mitigation related to this project. The MEPA process should be used as an opportunity for resource and management agencies to recommend mitigation requirements at an early stage so that a comprehensive program that addresses priority issues related to the project can be developed in a coordinated fashion. This is particularly important for large infrastructure projects such as this one that involve multiple agencies, and raise important policy issues regarding the use of public trust resources. The permanent occupation of the seafloor by the project may preclude or detrimentally affect other potential long-term future uses of the surrounding seabed and marine resources. Therefore, the DEIR should include proposals for compensatory mitigation, in consideration of the predicted 20-year life expectancy of the project versus any proposed restrictions on activity within the proposed safety exclusion around the DWP and potential impacts to marine habitat and fisheries and their anticipated recovery periods. In addition to regulatory mitigation requirements, compensation may be required for this project under Chapter 91. In addition, The Deepwater Port Act at Section 1504(h)(2) and (3) provides for the potential payment of a fee to the adjacent state for the construction and operation of a DWP, subject to various conditions and limitations. The proponent should consider and describe mitigation related to natural resources, the fishing economy, energy infrastructure, recreation, and ocean management data. I ask that development of required mitigation be coordinated through my office.

The DEIR should include a separate chapter on mitigation measures. This chapter on mitigation should include a proposed Section 61 Finding for all state permits. The proposed Section 61 Finding should contain a clear commitment to mitigation, an estimate of the individual costs of the proposed mitigation and the identification of the parties responsible for implementing the mitigation. A schedule for the implementation of mitigation should also be included.

### Comments and Circulation

The DEIR should include a copy of each comment letter submitted to the Secretary of Environmental Affairs (listed at the end of this Certificate) and respond to each substantive comment. The proponent should circulate a hard copy of the DEIR to each federal, state and local agency from which the proponent will seek permits or approvals. In the interest of broad public dissemination of information, I encourage the proponent to send a notice of availability of the DEIR (including relevant comment deadlines, locations where hard copies may be reviewed and electronic copies obtained and appropriate addresses) to those who submitted comment

letters to the USCG. This notification may take the form of electronic notification for those comments submitted via e-mail.

In addition, copies of the DEIR should be made available for public review at the Boston, Gloucester, Marblehead, Salem, Beverly and Manchester by the Sea public libraries.

November 25, 2005  
Date

  
Stephen R. Pritchard

Comments received:

10/18/2005	Massachusetts Historical Commission
10/27/2005	Board of Underwater Archaeological Resources
11/07/2005	National Oceanic and Atmospheric Administration
11/17/2005	Department of Environmental Protection
11/17/2005	City of Gloucester, Office of the Mayor
11/17/2005	Excelerate Energy, LLC.
11/18/2005	Commonwealth of Massachusetts Division of Energy Resources
11/18/2005	Boston Pilot Association
11/18/2005	Mitt Romney, Governor
11/18/2005	Department of Conservation and Recreation
11/18/2005	Massachusetts Division of Marine Fisheries
11/18/2005	Alessandro & Kathleen Cagiati
11/21/2005	United States Environmental Protection Agency
11/21/2005	Massachusetts Office of Coastal Zone Management
11/21/2005	Sierra Club
11/23/2005	Conservation Law Foundation
11/23/2005	Commonwealth of Massachusetts, Energy Facilities Siting Board

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